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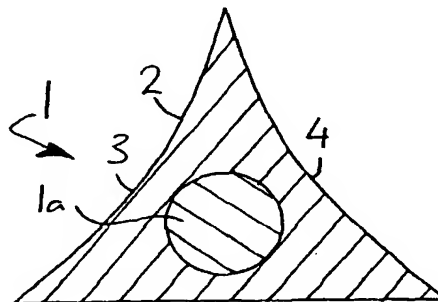
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- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: GRIP FOR HAND HELD INSTRUMENTS



(57) Abstract: A hand held instrument adapted to be held in use between a user's fore finger (5), middle finger (6) and thumb (7) in the manner of a writing instrument, comprising an instrument grip (2) provided with a substantially triangular cross-section, in which a first side (3) and a second side (4) of the cross-section are provided with a concavity adapted to receive a portion of either the user's fore finger or thumb in use.

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GRIP FOR HAND HELD INSTRUMENTS

This invention relates to a novel hand grip for tools held between the fore finger, middle finger and thumb in the manner of a writing instrument.

Pens, pencils and other tools held in the same manner are commonly cylindrical in shape, and dimensioned to fit between the digits. However, in use such items can cause discomfort, due to the digits being pressed up against the cylindrical shape for a prolonged period.

It is known to provide a more ergonomically shaped grip section for a writing implement. Common examples comprise a tapered grip section, or a padded resilient grip section. The present invention is intended to provide a novel approach.

When an individual learns to write, it is important to learn to grip the writing instrument in the traditional way. However, writing implements can be gripped in multiple ways, which can lead to confusion and/or the adoption of an incorrect writing style.

Further, particular writing instruments must be held at a particular rotation, for example a fountain pen which must have the tip of the nib placed squarely onto the writing surface. In addition, a "carpenter's pencil" which has an irregularly shaped lead cross-section, for example a rectangle, must be held at a certain rotation in order to write in a particular manner, for example in a classical style with a broad down stroke and a narrow cross stroke. If instruments like those described are held at an incorrect rotation it can lead to damage to the instrument or an undesired writing result.

The present invention is also intended to overcome some of these problems.

According to the present invention a hand held instrument adapted to be held in use between a user's fore finger, middle finger and thumb in the manner of a writing instrument, comprises an instrument grip provided with a substantially triangular cross-section, in which a first side and a second side of the cross-section are provided with a concavity adapted to receive a portion of either the user's fore finger or thumb in use.

Preferably the instrument grip may be dimensioned to fit inside the substantially triangular aperture in which a first side and a second side are concave, which is formed by portions of the user's fore finger, middle finger and thumb when they are held together in a manner suitable to grip a writing instrument. Therefore, the instrument grip is preferably smaller in size than a conventional writing instrument.

In a preferred construction the concavities can extend along the length of the first and second sides of the triangle, and are shaped and dimensioned to substantially correspond to the curvature of the underside of the fore finger and thumb.

In one construction the instrument may be a writing instrument. It will be appreciated that the instrument can be any implement which is held in the manner of a writing instrument.

Preferably the third side of the triangle can be substantially flat, so it can be rested on the side of the middle finger in use. This arrangement is suited to constructions in which the instrument must be held a particular way up, for example a fountain pen or a carpenter's pencil, because the grip can only be held comfortably with the first and second sides uppermost. It will be appreciated that it will be immediately clear to the user of the instrument if it is not held at the correct rotation because it will be uncomfortable to use. This embodiment can also be used with

other tools, for example surgical instruments, which may also need to be held at a particular rotation.

In a preferred embodiment when the third side of the triangle is rested on the middle finger in use, the active surface or point of the tool can be the correct way up. For example, if it is desired to write in a classical style with a carpenter's pencil, the flat side may be substantially parallel with the broad surface of the lead in the pencil.

However, in an alternative construction the first, second and third sides of the triangle can be provided with a curved recess, so that the tool can be held comfortably any way up.

It will be appreciated that the user can have hands of any size, and therefore the instrument can be provided in a number of dimensions to suit any user from a child to an adult.

The invention can be performed in various ways but one embodiments will now be described by way of example, and with reference to the accompanying drawings, in which:

Figure 1 is a cross-sectional front view of a pen according to the present invention;

and,

Figure 2 is a front view of the pen shown in Figure 1 in use.

As shown in Figure 1 a hand held instrument adapted to be held in use between a user's fore finger, middle finger and thumb in the manner of a writing instrument, in the form of ink pen 1, comprises an instrument grip 2 provided with a triangular cross-section, in which a first side 3 and a second side 4 of the cross-section are provided with a concavity adapted to receive a portion of either the user's fore finger 5 or thumb 7 in use.

As is shown in the Figures, the whole length of the first side 3 and the second side 4 are shaped as concavities.

The third side 8 of the triangular cross-section is flat, and the first and second sides 3 and 4 are shaped to receive the physical shape of the fore finger 5 and the thumb 7.

Therefore, as shown in Figure 2, the instrument grip 2 is adapted to be held in use between the fore finger 5 and thumb 7 in the traditional way, with the third side 8 seated on the side 9 of the middle finger 6. The ink pen is provided with an ink cartridge 1a.

As is shown in Figure 2, the instrument grip 2 is dimensioned to fit inside a substantially triangular aperture in which a first side and a second side are concave, which is formed by portions of the user's fore finger 5, middle finger 6 and thumb 7 when they are held together in a manner suitable to grip a writing instrument.

Thus, when the ink pen 1 is gripped for use, the fore finger 5 and thumb 6 are not misshaped under the pressure of the user's grip.

It will also be appreciated that the ink pen 1 can only be gripped comfortably in the traditional manner between the fore finger 5, middle finger 6 and thumb 7. Therefore, the ink pen 1 can be used as a tool to teach the correct method of holding an instrument for writing.

Further, the embodiment described can be used with ink pens or other instruments which must be held at a particular rotation, for example a fountain pen or a carpenter's pencil.

In a further embodiment, not shown, a writing instrument is substantially the same shape as the pen 1 shown in Figures 1 and 2, but is dimensioned to be used by a child.

In a further embodiment, not shown, a writing instrument is provided with a concavity on all three sides of the triangular grip, so it can be held comfortably any way up.

Thus, a tool which is held in the manner of a writing instrument is provided which can be used without causing discomfort to the digits. Further, a teaching implement is provided which can be used to teach the correct method to hold a writing instrument, or any other implement. In addition, a tool grip is provided which can be used to correctly orientate an instrument which must be held at a particular rotation for use.

Claims

1. A hand held instrument adapted to be held in use between a user's fore finger, middle finger and thumb in the manner of a writing instrument, comprising an instrument grip provided with a substantially triangular cross-section, in which a first side and a second side of the cross-section are provided with a concavity adapted to receive a portion of either the user's fore finger or thumb in use.
2. A hand held instrument as claimed in Claim 1 in which the instrument grip is dimensioned to fit inside a substantially triangular aperture in which a first side and a second side are concave, which is formed by portions of the user's fore finger, middle finger and thumb when they are held together in a manner suitable to grip a writing instrument.
3. A hand held instrument as claimed in Claim 1 or 2 in which the concavity provided on the first side and the second side or the cross-section extends along the whole length first side and the second side.
4. A hand held instrument as claimed in Claim 3 in which a third side of the cross-section is substantially flat.
5. A hand held instrument as claimed in Claim 4 in which the instrument comprises an active end which must be disposed at a particular rotation in order to function correctly, and in which when the third side is rested on the middle finger in use, the active end is substantially disposed at said particular rotation.
6. A hand held instrument as claimed in Claim 3 in which a third side of the cross-section is provided with a concavity adapted to receive either the user's fore finger or thumb in use.

7. A hand held instrument as claimed in Claim 6 in which the instrument comprises an active end which can be disposed at any rotation in order to function correctly.
8. A hand held instrument as claimed in any of the preceding Claims in which the instrument is a writing instrument.

FIG 1

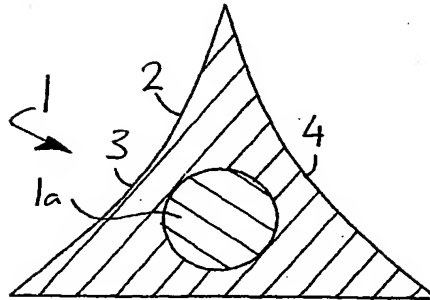
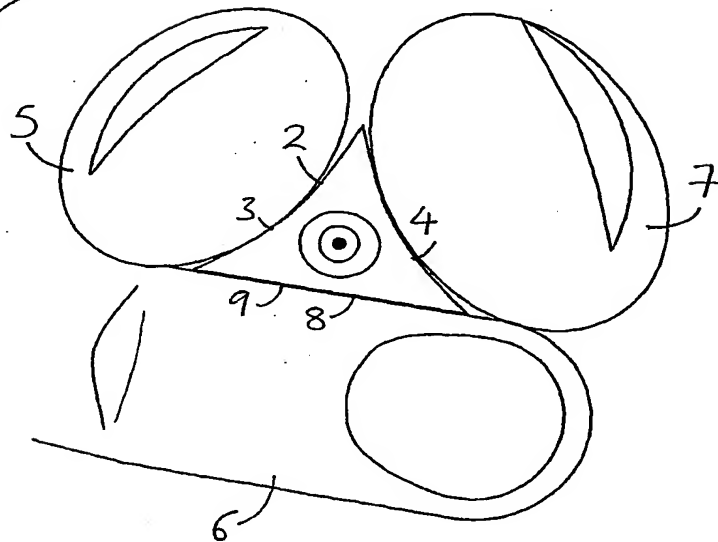


FIG 2



INTERNATIONAL SEARCH REPORT

Internat Application No

PCT/GB 03/03965

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 B43K23/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 B43K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 468 083 A (CHESAR DAVID M) 21 November 1995 (1995-11-21) column 2, line 66 -column 4, line 57; figures 7-10	1
X	GB 2 039 254 A (COFFMAN M) 6 August 1980 (1980-08-06) page 2, line 18 -page 2, line 41; figures	1

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

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- *E* earlier document but published on or after the international filing date
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- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
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INTERNATIONAL SEARCH REPORT

information on patent family members

International Application No

PCT/GB 03/03965

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 5468083	A	21-11-1995	NONE	
GB 2039254	A	06-08-1980	NONE	